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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,027	12/10/2003	Gi-Young Kim	030681-604	5169

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EXAMINER

VO, TUYET THI

ART UNIT PAPER NUMBER

2821

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/731,027

Applicant(s)

KIM ET AL.

Examiner

Tuyet Vo

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-36 is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14, 16, 17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 12, 15 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the electrodes constituting each of the electrode groups are arranged in a striped pattern and have a shape selected from the group consisting of a sine-wave shape, a sawtooth shape, and a square-wave shape must be shown or the feature(s) canceled from the claims 9 and 21.** No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-7, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Mori et al. (US Pat. 6,798,144), hereinafter Mori.

Regarding claims 1 and 3-6, Mori discloses a flat lamp (Fig. 14) comprising:

a front glass panel (2);

a rear glass panel (1), which is separated from the front panel by a predetermined distance and hermetically sealed to the front panel;

a spacer (18), which maintains the front and rear panels separated by the predetermined distance and secures a discharge space between the front and rear panels;

a discharge gas, which exists in the discharge space (col. 1, lines 11-16);

a fluorescent layer (19) formed on an inner surface of at least one of the front and rear panels; and

a plurality of electrode groups (X) formed in the rear glass panel (1), each electrode group comprising at least three electrodes (X_{B-3} , X_{A-34} , X_{B-4}), wherein the front glass panel comprises a front glass substrate (2), a dielectric layer (26), which is formed on a back surface of the front glass substrate, and a fluorescent layer (19) formed on a back surface of the dielectric layer.

Regarding claims 7 and 9, Mori further discloses the front glass panel (2) comprises a plurality of electrodes (Y) having at least one (Y_1) of the electrodes (Y_1 , Y_2 , Y_3) corresponds to a

Art Unit: 2821

single electrode group and wherein the electrodes constituting each of the electrode groups are arranged in a striped pattern.

Regarding claim 10, Mori also discloses a gap between a particular electrode among the electrodes constituting each of the electrode groups and an adjacent electrode thereamong is different from a gap between all of the electrodes except for the particular electrode thereamong (Fig. 14).

4. Claims 11, 13, 14, 16, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al. (US Pat. 6,747,407), hereinafter Saito.

Regarding claims 11, 13 and 21, Saito discloses a flat lamp including a front glass panel (50) and a rear glass panel (60), which are spaced a predetermined distance apart from each other and hermetically sealed, and a spacer (70), which is provided between the front glass panel (50) and the rear glass panel (60) to maintain the front and rear glass panels separated by the predetermined distance and secure a discharge space, wherein a predetermined discharge gas exists in the discharge space (col. 1, lines 44-50), and a fluorescent layer (85) is formed on a surface of at least one of the front and rear panels, the surface being exposed to the discharge space, the flat lamp comprising a plurality of electrodes in each of the front and rear glass panels, wherein the plurality of electrodes are arranged such that at least three electrodes (120, 130), which are selected partially from the plurality of electrodes included in the rear panel (130) and partially from the plurality of electrodes included in the front glass panel (120), constitute a single electrode set, wherein the single electrode set comprises at least two electrodes (120) selected from the plurality of electrodes included in the front glass panel and at least one electrode (130) selected from the plurality of electrodes included in the rear glass panel to correspond to the at least two electrodes and wherein the plurality of electrodes included in the front and rear glass panels are arranged in a striped pattern, and the plurality of electrodes included at least one of the front and rear glass panels have a shape of a straight line.

Regarding claims 14 and 16, Saito further discloses the rear panel comprises a rear glass substrate (60), a dielectric layer (62), and a fluorescent layer (85), which are sequentially stacked, the plurality of electrodes included in the rear panel are formed on a surface of the rear

Art Unit: 2821

glass substrate, and the dielectric layer is formed so that the plurality of electrodes formed on the surface of the rear glass substrate are covered with the dielectric layer (Fig. 1).

Regarding claim 20, Saito also discloses the front panel comprising a front glass substrate (50); and a dielectric layer (52), which is formed on a back surface of the front glass substrate (50), and the plurality of electrodes (120) included in the front panel are formed between the front glass substrate (50) and the dielectric layer (52).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of the admitted prior art shown in figures 1 and 2.

Mori discloses substantially the claim invention as noted above except for a fluorescent layer formed on a dielectric layer, wherein the dielectric layer is formed on the rear glass substrate to cover the electrode groups.

The cited prior art shown in figure 1 discloses a fluorescent layer (20c) formed on a dielectric layer (20b), wherein the dielectric layer is formed on the rear glass substrate (20a) to cover the electrode groups.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a fluorescent layer formed on a dielectric layer in order to increase a density of fluorescent material so as to improve a higher quality of image in a flat display device.

7. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori.

Art Unit: 2821

Mori discloses substantially the claim invention as noted above, in that, the dielectric layer (52) formed on the front glass panel (50) except for fluorescent layer formed on the back surface of the dielectric layer (52).

It would have been an obvious matter of design choice to add a layer of fluorescent material on the back of the dielectric layer in order to increase a density of fluorescent material so as to improve a higher quality of image in a flat display device. Such implementation is considered as a routine skill in the art.

Allowable Subject Matter

8. Claims 22-36 are allowed.

9. Claims 12,15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to establish a single electrode set comprises at least two electrodes selected from the plurality of electrodes included in the rear panel and at least one electrode selected from the plurality of electrodes included in the front panel to correspond to the at least two electrodes as required in claim 12. The prior art also fails to disclose a method of driving a flat lamp device having three electrodes formed in the rear panel accommodated by steps of applying first, second and third voltages to first, second and third selected electrodes respectively and a fourth voltage to unselected electrode such that the distribution of the wall charge and space charge taking into account in a manner as required in claim 22. Claim 29 is also allowed due to its limitation as described in that the step of inducing a discharge between a first selected electrode and an adjacent second selected electrode among the first through fourth electrodes, and step of applying a first voltage to the second selected electrode, taking account of a wall charge distribution and a space charge distribution, which result from the discharge, the third/fourth/fifth selected electrode, similarly to the second electrode, having the second/third/fourth voltage applied there-through as required.

Art Unit: 2821

Citation of pertinent prior art

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Ahn et al. (US Pat. 6,603,265) discloses plasma display panel having trigger electrodes.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.


Tuyet Vo

Primary Examiner

April 27, 2005